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EXAMINER

PHAM, HUNG Q

ART UNIT PAPER NUMBER

2168

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/873,730

Applicant(s)

NEUFELD ET AL.

Examiner

HUNG Q. PHAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 54-87 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 54-87 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

- The objection of claims 60 and 77 has been withdrawn in view of the amendment.
- Applicant's arguments with respect to the rejection of claims 54, 61-68, 71 and 78-85 under 35 U.S.C. § 112, first paragraph, have been fully considered but they are not persuasive.

As argued by applicants at pages 12 and 13:

... with respect to claims 54 and 71, it is respectfully submitted that in view of the specification, one with ordinary skill in the art would understand that a network element as claimed is related to a network routing device (e.g., DSL box, etc.) for routing network traffic among multiple networks.

Specifically, the specification of the present application states:

"Communication networks suffer when a network element is brought down by an errant configuration or some other fault within the network element. The time spent determining the exact state of a crashed network element and then reconfiguring the crashed network element is detrimental to businesses relying on the network and the owner of the network."

(Specification, page 3, paragraph [0005]).

"A fault tolerant network element improves the performance of a network and decreases the downtime of a network. The network providers and entities relying on networks benefit from a network with increased reliability. A fault tolerant network allows a network provided to maximize utilization of the network."

(Specification, page 18, paragraph [0048]).

Thus, independent claims 54 and 71 are fully supported by the specification.

With respect to claims 61-62 and 78-79, the support can be found, for example, on pages 5-6, 9-11, and 15-16; Figs. 1, 4A-4B, and 6. Similarly, with respect to claims 63-68 and 80-85, the support can be found, for example, on pages 9-11 and 15-17; Figs. 4A-4B and 6-8. Therefore, it is respectfully submitted that all claims are fully supported throughout the specification.

The claimed *network element* is a general network element. One with ordinary skill in the art would not understand that the claimed *network element* could be related to a network routing device by the provided description above, especially the claimed *a network element having a first interface communicatively coupled to a first network and a second interface communicatively coupled to a second network... a database that is used to route network traffic between the first network and the second network via the first and second interfaces, the first network being different than the second network... a commit command from the CLI indicating*. Therefore, the rejection of claims 54 and 71 under 35 U.S.C. § 112, first paragraph, is hereby sustained.

With respect to claims 61-68 and 78-85, applicants direct examiner to pages 5, 6, 9-11, 15-17, FIG. 1, 4A-4B and 6-8 as the support of the claimed features in these claims. However, neither explicitly nor implicitly, the limitations as recited in these claims were illustrated in the provided pages and figures. Therefore, the rejection of claims under 35 U.S.C. § 112, first paragraph, is hereby sustained.

- Applicants' arguments with respect to the rejection of claims 54 and 71 under 35 U.S.C. § 112, second paragraph, have been fully considered. The rejection of claims 54 and 71 under 35 U.S.C. § 112, second paragraph, has been sustained in view of the subject matters from the amendment. The rejection will be detailed as below.

- Applicant's arguments with respect to the rejection under 35 U.S.C. § 103 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 54, 61-68, 71 and 78-85 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As in claims 54 and 71 the claimed *a network element having a first interface communicatively coupled to a first network and a second interface communicatively coupled to a second network... a database that is used to route network traffic between the first network and the second network via the first and second interfaces, the first network being different than the second network... performing the recorded operations of the request from the transaction log to access a record of the database associated with the request received from the user in response to a commit command from the CLI indicating that the user has committed to the requested configuration* was not described in the specification.

As in claims 61 and 78, the claimed *indicating within the transaction log that the request is in a non-transaction state if operations of committing the operations of the request from the transaction log to the database have completed* was not described in the specification.

As in claims 62 and 79, the claimed *indicating within the transaction log that the request is in a transaction state while recording the operations of the request in the transaction log before receiving the commit command from the user* was not described in the specification.

As in claims 63 and 80, the claimed *detecting whether operations of committing the operations of the request from the transaction log to the database have stopped resulted from errors of the network element; and in response to the detection, renewing performing the operations of the request from the transaction log to the database while the record of the database is locked* was not described in the specification.

As in claims 64 and 81, the claimed *the detection of whether operations of committing the operations of the request has stopped resulted from errors is performed in response to the network element crashes and recovers from the crash* was not disclosed in the specification.

As in claims 65 and 82, the claimed *the detection is performed by examining within the transaction log whether the request is in the committing state, and wherein the renewing is performed only if the request is in the committing state* was not disclosed in the specification.

As in claims 66 and 83, the claimed *detecting whether operations of recording the operations of the request within the transaction log have stopped resulted from errors of the network element; and in response to the detection, removing the request from the transaction log without committing to the database* WAS not disclosed in the specification.

As in claims 67 and 84, the claimed *the detection of whether operations of recording the operations of the request within the transaction log has stopped resulted from errors is performed in response to the network element crashes and recovers from the crash* was not disclosed in the specification.

As in claims 68 and 85, the claimed *the detection is performed by examining within the transaction log whether the request is in the transaction state, and wherein the removing is performed only if the request is in the transaction state* was not disclosed in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 54 and 71 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As in claims 54 and 71, after receiving a request from a user at line 5, *the request accessing a configuration file stored in a database* at lines 6-7, in response to the request, operations of the request is recorded... *without accessing the database until a commit command is received...* at lines 12-13, and recorded operations are performed... *to access a record of the database... in response to a commit command...* at lines 14-16. As seen, the clauses *without accessing the database until a commit command is received...* and *in response to a commit command...* are

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conditional clauses based on a commit command to access the database. These conditional clauses are improper and make the claims indefinite because the database is accessed at the time the request is received as recited in the claim at lines 6-7. As illustrated in the Specification at paragraph 0024, the database associated with the request as recited at lines 15 is the database that contains the log records, and in response to a commit command as recited at line 16, a record corresponding to the transaction is accessed and marked as committed (paragraph 0042). Thus, in light of the specification, there is no *database that is used to route network traffic between the first network and the second network via the first and second interfaces* as recited at lines 7-8. The database as recited at lines 12 and 15 is a database that contains the transaction logs.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 54-62, 69-79, 86 and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traversat et al. [USP 6,115,715 (here in after referred to as 715), and USP 6,119,129 (herein after referred to as 129)] in view of Blumenau et al. [USP 6,665,714 B1].

Regarding claims 54 and 71, Traversat teaches a computer method for updating and managing configuration database performed by *a network element having a first interface communicatively coupled to a first network and a second interface communicatively coupled to a second network* (As disclosed by Traversat in 715 at Col. 12, Lines 43-50, the network element includes a network interface 924. Network interface couples the network element to another computer, computer network, or telecommunication network via the network interface 924. The network element might receive information, e.g., data objects or program instructions, from another network, and output information to another network in the course of performing the configuration) the method comprising:

receiving a request from a user of the network element for configuring the network element (Traversat 715, Col. 7, Lines 58-59),

the request accessing a configuration file stored in a database (Traversat 715, Col. 7, Lines 61-63)

that is used to route network traffic between the first network and the second network via the first and second interfaces, the first network being different than the second network

(As discussed above, the network element includes a network interface 924. Network interface couples the network element to another computer, computer network, or telecommunication network via the network interface 924. The network element might receive information, e.g., data objects or program instructions, from another network, and output information to another network in the course of performing the configuration. Traversat further discloses in 715 that the interface entry of the database is needed so software applications can search for a logical name for the printer, e.g., "Printer 4" (Traversat 715, Col. 7, Line 66-Col. 8, Line 2). As seen, the database as disclosed by Traversat is *used to route network traffic between the first network and the second network via the first and second interfaces, the first network being different than the second network*, e.g., Netscape is used to download a Web page from a Web server via the Internet as a first network and using printer in a group of printers as a second network to print out the Web page);

in response to the request, recording operations of the request in a transaction log separated from the database without accessing the database until a commit command is received from the user (As disclosed by Traversat in 715, the request for adding a new printer corresponds to a transaction (Traversat 715, Col. 8, Lines 3-5). As disclosed by Traversat in 129, when a transaction directed to the configuration database is initiated (Traversat 129, Col. 9, Lines 3-4), operations of the transaction, e.g., START, MODIFICATION, are recorded in a transaction log entries as in FIG. 6. At these stages nothing has been done to the configuration database (Traversat 129, FIG. 7, Col. 9, Lines 4-18); and

performing the recorded operations of the request from the transaction log to access a record of the database associated with the request received from the user in response to a commit command indicating that the user has committed to the requested configuration (the operations from the transaction log is performed (Traversat 129, Col. 9, Lines 18-21), and in response to a commit command indicating that the user has committed the configuration (Traversat 129, Col. 9, Lines 39-45), the journal contains the transaction log entries as *the database associated with the request* is accessed and a COMMIT entry is written to the journal).

Traversat does not explicitly teach *a command line interface (CLI)* is used for receiving the request.

Blumenau teaches *a command line interface (CLI)* is used for communicating with a configuration database (Blumenau, Col. 33, Lines 19-26).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to include a command line interface in order to configure a network element.

Regarding claims 55 and 72, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 54 and 71, Traversat further discloses *the transaction log comprises a persistent memory in which content of the transaction log is maintained after the network element is powered down or rebooted* (Traversat 129, Col. 7, Lines 23-30).

Regarding claims 56 and 73, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 54 and 71,

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Traversat further discloses the step of *acquiring a lock for locking the record of the database associated with the request to prevent other users from accessing the record of the database* (Traversat 175, Col. 8, Lines 3-24).

Regarding claims 57 and 74, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 56 and 73, Traversat further discloses the step of *receiving further modification of configuration from the user prior to the commit command; and storing the modification in the transaction log without accessing the data base until the commit command is received from the user upon which the modification of the configuration is committed from the transaction log to the locked record of database* (Traversat 129, FIG. 7, Col. 9, Lines 1-49).

Regarding claims 58 and 75, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 56 and 73, Traversat method further comprising: *receiving an abort command from the user via the CLI prior to receiving the commit command; and in response to the abort command, removing the operations of the request from the transaction log and releasing the acquired lock without accessing the database* (Traversat 175, FIG. 5).

Regarding claims 59 and 76, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 58 and 75, Traversat further discloses *after performing the removing and releasing in response to the abort*

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command, the record of the database remains substantially identical with respect to the record prior to receiving the request (Traversat 175, Col. 9, Lines 59-65).

Regarding claims 60 and 77, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 56 and 73, Traversat further discloses the step of *indicating within the transaction log that the request is in a committing state while committing the operations of the request from the transaction log to the locked record of the database* (Traversat 175, Col. 8, Line 60-Col. 9, Line 9).

Regarding claims 61 and 78, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 60 and 77, Traversat further discloses the step of *indicating within the transaction log that the request is in a non-transaction state if operations of committing the operations of the request from the transaction log to the database have completed* (Traversat 175, Col. 10, Lines 18-31).

Regarding claims 62 and 79, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 61 and 78, Traversat further discloses the step of *indicating within the transaction log that the request is in a transaction state while recording the operations of the request in the transaction log before receiving the commit command from the user* (Traversat, Col. 10, Lines 18-31).

Regarding claims 69 and 86, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 56 and 83,

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Traversat further discloses the step of *determining whether the lock being acquired is unavailable; notifying the user via the CLI that the lock is unavailable; and prompting the user whether the user desires to wait or cancel the request* (Traversat 175, Col. 8, Lines 3-41).

Regarding claims 70 and 87, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 59 and 86, Traversat further discloses the steps of *removing the request from the transaction log in response to receiving a cancel command from the user in response to the prompting; and in response to receiving a wait command from the user, repeating acquiring the lock until the lock has been acquired upon which if the commit command has been received, the request is committed from the transaction log to the locked record of the database* (Traversat 175, Col. 8, Lines 3-41).

Claims 63-68 and 80-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Traversat et al. [6,115,715], Blumenau et al. [USP 6,665,714 B1] as applied to claims 62, 79 above, and further in view of Asherman [US 2002/0065795 A1].

Regarding claims 63 and 80, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 62 and 79, but does not teach the step of *detecting whether operations of committing the operations of the request from the transaction log to the database have stopped resulted from errors of the network element; and in response to the detection, renewing performing the operations of the request from the transaction log to the database while the record of the database is locked.*

Asherman teaches the step of *detecting whether operations of committing the operations of the request from the transaction log to the database have stopped resulted from errors of the network element; and in response to the detection, renewing performing the operations of the request from the transaction log to the database while the record of the database is locked* (paragraph 0110-0117). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to detect the error and renewing the configuration step as disclosed by Asherman in order to reconfigure configuration data.

Regarding claims 64 and 81, Traversat, Blumenau and Asherman, in combination, teach all of the claimed subject matter as discussed above with respect to claims 63 and 80, the claimed *the detection of whether operations of committing the operations of the request has stopped resulted from errors is performed in response to the network element crashes and recovers from the crash* is further disclosed by Asherman (paragraph 0064, 0110-0117).

Regarding claims 65 and 82, Traversat, Blumenau and Asherman, in combination, teach all of the claimed subject matter as discussed above with respect to claims 64 and 81, Asherman further discloses *the detection is performed by examining within the transaction log whether the request is in the committing state, and wherein the renewing is performed only if the request is in the committing state* (paragraph 0110-0117).

Regarding claims 66 and 83, Traversat and Blumenau, in combination, teach all of the claimed subject matter as discussed above with respect to claims 62 and 79, but fail to disclose the step of *detecting whether operations of recording the operations of the request within*

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the transaction log have stopped resulted from errors of the network element; and in response to the detection, removing the request from the transaction log without committing to the database.

Asherman teaches the step of *detecting whether operations of recording the operations of the request within the transaction log have stopped resulted from errors of the network element; and in response to the detection, removing the request from the transaction log without committing to the database* (paragraph 0110-0117). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to detect the error and renewing the configuration step as disclosed by Asherman in order to reconfigure configuration data.

Regarding claims 67 and 84, Traversat, Blumenau and Asherman, in combination, teach all of the claimed subject matter as discussed above with respect to claims 66 and 83, Asherman further discloses *the detection of whether operations of recording the operations of the request within the transaction log has stopped resulted from errors is performed in response to the network element crashes and recovers from the crash* (paragraph 0064, 0110-0117).

Regarding claims 68 and 85, Traversat, Blumenau and Asherman, in combination, teach all of the claimed subject matter as discussed above with respect to claims 67 and 84, Asherman further discloses *the detection is performed by examining within the transaction log whether the request is in the transaction state, and wherein the removing is performed only if the request is in the transaction state* (paragraph 0110-0117).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q. PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIM T. VO can be reached on 571-272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HUNG Q PHAM
Examiner
Art Unit 2168

March 23, 2006



TIM VO
PRIMARY EXAMINER